No. 9300199

# THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

## Northrup King Co.

Whereas, THERE HAS BEEN PRESENTED TO THE

**Secretary of Agriculture**

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF *eighteen* YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT TY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. UNITED STATES SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS F CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS S THE OWNER OF THE RIGHTS. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

WHEAT

'Coker 9904'

In Testimony Whereof, *I have hereunto set my hand and caused the seal of the* Plant Variety Protection Office *to be affixed at the City of* Washington, D.C. *this* 30th *day of* November *in the year of our Lord one thousand nine hundred and* ninety-three.

*Attest:*

Kenneth B. Evans

*Commissioner*
*Plant Variety Protection Office*
*Agricultural Marketing Service*

*Secretary of Agriculture*

FORM APPROVED: OMB 0581-0055, Expires 1/31/91

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

# APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

*(Instructions on reverse)*

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S) *(as it is to appear on the Certificate)*
Northrup King Company

2. TEMPORARY DESIGNATION OR EXPERIMENTAL NO.
CL850643

3. VARIETY NAME
Coker 9904

4. ADDRESS *(street and no. or R.F.D. no., city, state, and ZIP)*
P.O. Box 959
Minneapolis, MN 55440

5. PHONE *(Include area code)*
(612) 593-7333

FOR OFFICIAL USE ONLY

PVPO NUMBER
9300199

FILING
Date 4/20/93
Time ☐ A.M. ☐ P.M.

FEES RECEIVED
Filing and Examination Fee: $ 2325
Date 4/20/93
Certificate Fee: $ 275.00
Date Nov. 1, 1993

6. GENUS AND SPECIES NAME
Triticum aestivum

7. FAMILY NAME *(Botanical)*
Gramineae

8. CROP KIND NAME *(Common Name)*
Soft Red Winter Wheat

9. DATE OF DETERMINATION
1985

10. IF THE APPLICANT NAMED IS NOT A "PERSON," GIVE FORM OF ORGANIZATION *(Corporation, partnership, association, etc.)*
Corporation

11. IF INCORPORATED, GIVE STATE OF INCORPORATION
Delaware

12. DATE OF INCORPORATION
1976

13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS

Northrup King Co.
P. O. Box 949
Washington, IA 52353-0949
Attention: John Thorne

PHONE *(Include area code)*: 319-653-6645

14. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED *(Follow INSTRUCTIONS on reverse)*

a. [X] Exhibit A, Origin and Breeding History of the Variety
b. [X] Exhibit B, Novelty Statement.
c. [X] Exhibit C, Objective Description of Variety.
d. [X] Exhibit D, Additional Description of Variety.
e. [X] Exhibit E, Statement of the Basis of Applicant's Ownership.
f. [X] Seed Sample (2,500 viable untreated seeds). Date Seed Sample mailed to Plant Variety Protection Office _____
g. [ ] Filing and Examination Fee ($2,150) made payable to "Treasurer of the United States"

15. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? *(See section 83(a) of the Plant Variety Protection Act.)*
[X] YES *(If "YES," answer items 16 and 17 below)* [ ] NO *(If "NO," skip to item 18 below)*

16. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?
[X] YES [ ] NO

17. IF "YES" TO ITEM 16, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED?
[X] FOUNDATION [X] REGISTERED [X] CERTIFIED

18. DID THE APPLICANT(S) PREVIOUSLY FILE FOR PROTECTION OF THE VARIETY IN THE U.S.?
[ ] YES *(If "YES," through* [ ] Plant Variety Protection Act [ ] Patent Act Give date _____ )
[X] NO

19. HAS THE VARIETY BEEN RELEASED, USED, OFFERED FOR SALE, OR MARKETED IN THE U.S. OR OTHER COUNTRIES?
[X] YES (If "YES," give names of countries and dates) U.S.A. Fall of 1992
[ ] NO

20. The applicant(s) declare(s) that a viable sample of basic seeds of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable.

The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in section 41, and is entitled to protection under the provisions of section 42 of the Plant Variety Protection Act.

Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

| SIGNATURE OF APPLICANT *(Owner(s))* | CAPACITY OR TITLE | DATE |
|---|---|---|
| John C Thorne | Res. Dir., Self-pollinated Crops | March 29, 1993 |
| SIGNATURE OF APPLICANT *(Owner(s))* | CAPACITY OR TITLE | DATE |
| | | |

# EXHIBIT A

## Origin and Breeding History of Coker 9904

| SEASON | GENERATION | ACTIVITY |
|---|---|---|
| Spring '78 | Cross made | Between 78DSP811 x C77-22 (identified as x256)* |
| 1978 Summer | $F_1$ | Grew $F_1$ in greenhouse and bulked seed |
| 1978-79 | $F_2$ | Grew as space planted population, 79DSP55 |
| 1979-80 | $F_3$ | Selected heads grown as head rows, 80HR12374 |
| 1980-81 | $F_4$ | Selected heads grown as head rows, 81HR30238 |
| 1981-82 | $F_5$ | Selected heads grown as headrows, 82HR30552 |
| 1982-83 | $F_6$ | Head row selected #83HR25248 |
| 1983-84 | | Line tested as 84B-61 |
| 1984-85 | | Retested as line #C85B101 |
| 1985-86 | | Tested as Preliminary line, CL850643 (43-23) |
| 1986-87 | | Promoted to advanced line test (06-42) |
| 1987-88 | | Advanced to Commercial Elite Test (01-15) and planted small increase block at Bay |
| 1988-89 | | Continued in Commercial Elite Test (01-21) and planted .25 A increase block also entered into USDA Uniform Southern Wheat Nursery |
| 1989-90 | | Continued in Commercial Elite Test (01-18) and in Uniform Southern Wheat Nursery. Transferred to Seedstock Dept which grew a 5 acre increase block. |
| 1990-91 | | Limited testing (330-17). Noticed that it was relatively free of powdery mildew infection in nursery at Hartsville, SC. Nearly everything else was susceptible in varying degrees to the new race that was very virulent on Coker 9733. |
| 1991-92 | | Production department produced ~100 acres and seed was released to TGN seed growers as Coker 9904. |

***Pedigree of 78DSP811 is:** Coker 68-15*3/6/Coker 68-8//Chancellor *8/AXM/5/Coker 68-8*2/4/Coker 68-19/3/Coker 65-20*5//Wichita*7 /Transfer

***Pedigree of C77-22 is:** Holley/McNair 2203/3/Coker 65-20*5// Wichita*7/Transfer

# EXHIBIT A

Continued

## Origin and Breeding History of Coker 9904

In over 8 years of testing and 5 years of increase, the variety has been uniform. We have observed rare height and maturity variants and very rarely awned types, not exceeding 1/10,000 due to mixture or contamination.

# Exhibit B

## Novelty Statement of Coker 9904

Coker 9904 is most similar to Coker 9907 morphologically, in area of adaptation, and in reactions to disease/insect pests. The two varieties can be distinguished by four traits (see Table 1). Coker 9904 tends to head earlier and to exhibit a heavier test weight at Bay, AR than Coker 9907. Seedlings of Coker 9904 exhibit a white coleoptile; whereas, those of Coker 9907 are red. Coker 9904 exhibits field resistance to the new powdery mildew race in the Southeast that is very virulent on Coker 9907.

**TABLE 1. Distinguishing Characteristics**

**HEADING DATE BY YEARS**

| | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 | AVG |
|---|---|---|---|---|---|---|---|
| **Coker 9904** | **23** | **23** | **24** | **12** | **18** | **18** | **19.7** |
| Coker 9907 | 27 | 26 | 26 | 21 | 20 | 23 | 23.8 |
| LSD (.05) | | | | | | | 2.8 |
| CV % | | | | | | | 8.6 |
| Prob | | | | | | | 0.01 |

***Heading Date days after March 31. Data obtained from trials at Bay, AR.**

**TEST WEIGHT BY YEARS**

| | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 | AVG |
|---|---|---|---|---|---|---|---|
| **Coker 9904** | **54.5** | **57.1** | **55.6** | **53.7** | | **57.6** | **55.7** |
| Coker 9907 | 48.6 | 52.3 | 53.6 | 52.3 | | 55.6 | 52.5 |
| LSD (.05) | | | | | | | 2.5 |
| CV % | | | | | | | 2.6 |
| Prob | | | | | | | 0.02 |

**+Test Wt data obtained from trials at Bay, AR. 1991 data not used due to severe head diseases.**

# Exhibit B
Continued

9300199

**Novelty Statement of Coker 9904**

**Coleoptile Color and Reaction to Powdery Mildew**

| VARIETY | Coleoptile Color | Reaction to Powdery Mildew |
|---|---|---|
| **Coker 9904** | **White** | **Resistant** |
| Coker 9907 | Red | Susceptible |

FORM APPROVED: OMB NO. 0581-0066

EXHIBIT C
(Wheat)

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
COMMODITIES SCIENTIFIC SUPPORT DIVISION
BELTSVILLE, MARYLAND 20705

# OBJECTIVE DESCRIPTION OF VARIETY
## WHEAT (*TRITICUM SPP.*)

INSTRUCTIONS: *See Reverse.*

NAME OF APPLICANT(S)
Northrup King Company

ADDRESS (*Street and No. or R.F.D. No., City, State, and ZIP Code*)
P.O. Box 959
Minneapolis, MN 55440

FOR OFFICIAL USE ONLY

PVPO NUMBER
9300199

VARIETY NAME OR TEMPORARY DESIGNATION
Coker 9904

Place the appropriate number that describes the varietal character of this variety in the boxes below.
Place a zero in first box (e.g. [0][8][9] or [0][9]) when number is either 99 or less or 9 or less.

**1. KIND:**
[1] 1 = COMMON 2 = DURUM 3 = EMMER 4 = SPELT 5 = POLISH 6 = POULARD 7 = CLUB

**2. TYPE:**
[2] 1 = SPRING 2 = WINTER 3 = OTHER (*Specify*) _____
[1] 1 = SOFT 2 = HARD 3 = OTHER (*Specify*) _____
[2] 1 = WHITE 2 = RED 3 = OTHER (*Specify*) _____

**3. SEASON - NUMBER OF DAYS FROM EMERGENCE TO:**
[1][8][8] FIRST FLOWERING
[1][9][3] LAST FLOWERING

**4. MATURITY (*50% Flowering*):**
[0][3] NO. OF DAYS *EARLIER* THAN .....
[0][3] NO. OF DAYS *LATER* THAN .....
[7] [8] 1 = ARTHUR 2 = SCOUT 3 = CHRIS 4 = LEMHI 5 = NUGAINES 6 = LEEDS 7=Coker 9907 8=Gore

**5. PLANT HEIGHT (*From soil level to top of head*):**
[0][9.][4] CM. HIGH
[0][4] CM. TALLER THAN .....
[0][3] CM. SHORTER THAN .....
[7] [8] 1 = ARTHUR 2 = SCOUT 3 = CHRIS 4 = LEMHI 5 = NUGAINES 6 = LEEDS 7=Gore 8=Florida 302

**6. PLANT COLOR AT BOOTING (*See reverse*):**
[1] 1 = YELLOW GREEN 2 = GREEN 3 = BLUE GREEN

**7. ANTHER COLOR:**
[1] 1 = YELLOW 2 = PURPLE

**8. STEM:**
[1] Anthocyanin: 1 = ABSENT 2 = PRESENT
[2] Hairiness of last internode of rachis: 1 = ABSENT 2 = PRESENT
[0][4] NO. OF NODES (*Originating from node above ground*)
[2] Waxy bloom: 1 = ABSENT 2 = PRESENT
[1] Internodes: 1 = HOLLOW 2 = SOLID
[2][3] CM. INTERNODE LENGTH BETWEEN FLAG LEAF AND LEAF BELOW

**9. AURICLES:**
[1] Anthocyanin: 1 = ABSENT 2 = PRESENT
[2] Hairiness: 1 = ABSENT 2 = PRESENT

**10. LEAF:**
[1] Flag leaf at booting stage: 1 = ERECT 2 = RECURVED 3 = OTHER (*Specify*): _____
[1] Hairs of first leaf sheath: 1 = ABSENT 2 = PRESENT
[1][4] MM. LEAF WIDTH (*First leaf below flag leaf*)
[2] Flag leaf: 1 = NOT TWISTED 2 = TWISTED
[2] Waxy bloom of flag leaf sheath: 1 = ABSENT 2 = PRESENT
[2][4] CM. LEAF LENGTH (*First leaf below flag leaf*):

9300199

**11. HEAD:**

[3] Density: 1 = LAX 2 = DENSE 3=Mid-dense

[2] Shape: 1 = TAPERING 2 = STRAP 3 = CLAVATE 4 = OTHER (Specify) _____

[2-3] Awnedness: 1 = AWNLESS 2 = APICALLY AWNLETED 3 = AWNLETED 4 = AWNED

[7] Color at maturity: 1 = WHITE 2 = YELLOW 3 = PINK 4 = RED 5 = BROWN 6 = BLACK 7 = OTHER (Specify): Tan

[0 8] CM. LENGTH

[1 1] MM. WIDTH

**12. GLUMES AT MATURITY:**

[3] Length: 1 = SHORT (CA. 7 mm.) 2 = MEDIUM (CA. 8 mm.) 3 = LONG (CA. 9 mm.)

[3] Width: 1 = NARROW (CA. 3 mm.) 2 = MEDIUM (CA. 3.5 mm.) 3 = WIDE (CA. 4 mm.)

[4-5] Shoulder shape: 1 = WANTING 2 = OBLIQUE 3 = ROUNDED 4 = SQUARE 5 = ELEVATED 6 = APICULATE

[2] Beak: 1 = OBTUSE 2 = ACUTE 3 = ACUMINATE

**13. COLEOPTILE COLOR:**

[1] 1 = WHITE 2 = RED 3 = PURPLE

**14. SEEDLING ANTHOCYANIN:**

[1] 1 = ABSENT 2 = PRESENT

**15. JUVENILE PLANT GROWTH HABIT:**

[2] 1 = PROSTRATE 2 = SEMI-ERECT 3 = ERECT

**16. SEED:**

[3] Shape: 1 = OVATE 2 = OVAL 3 = ELLIPTICAL

[1] Cheek: 1 = ROUNDED 2 = ANGULAR

[2] Brush: 1 = SHORT 2 = MEDIUM 3 = LONG

[1] Brush: 1 = NOT COLLARED 2 = COLLARED

[ ] Phenol reaction (See instructions): 1 = IVORY 2 = FAWN 3 = LT. BROWN 4 = BROWN 5 = BLACK

[5] Color: 1 = WHITE 2 = AMBER 3 = RED 4 = PURPLE 5 = OTHER (Specify) Light brown

[0 6] MM. LENGTH

[0 3] MM. WIDTH

[3 5] GM. PER 1000 SEEDS

**17. SEED CREASE:**

[2] Width: 1 = 60% OR LESS OF KERNEL 'WINOKA' 2 = 80% OR LESS OF KERNEL 'CHRIS' 3 = NEARLY AS WIDE AS KERNEL 'LEMHI'

[2] Depth: 1 = 20% OR LESS OF KERNEL 'SCOUT' 2 = 35% OR LESS OF KERNEL 'CHRIS' 3 = 50% OR LESS OF KERNEL 'LEMHI'

**18. DISEASE: (0 = Not Tested, 1 = Susceptible, 2 = Resistant) 3=R/S race dependent 4=Moderately Resistant**

[4] STEM RUST (Races) _____

[2] LEAF RUST (Races) _____

[1] STRIPE RUST (Races) _____

[0] LOOSE SMUT

[3] POWDERY MILDEW

[0] BUNT

[2] OTHER (Specify) Septoria tritici

**19. INSECT: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)**

[0] SAWFLY

[0] APHID (Bydv.)

[0] GREEN BUG

[0] CEREAL LEAF BEETLE

[ ] OTHER (Specify) _____

HESSIAN FLY RACES: [ ] GP [ ] A [ ] B [ ] C [ ] D [1] E [ ] F [ ] G

**20. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED:**

| CHARACTER | NAME OF VARIETY | CHARACTER | NAME OF VARIETY |
|---|---|---|---|
| Plant tillering | Coker 9907 | Seed size | Coker 9907 |
| Leaf size | Coker 9907 | Seed shape | Coker 9907 |
| Leaf color | Coker 9907 | Coleoptile elongation | Coker 9024 |
| Leaf carriage | Coker 9024 | Seedling pigmentation | Coker 9024 |

## INSTRUCTIONS

GENERAL: The following publications may be used as a reference aid for the standardization of terms and procedures for completing this form:

(a) L.W. Briggle and L. P. Reitz, 1963, Classification of Triticum Species and Wheat Varieties Grown in the United States, Technical Bulletin 1278, United States Department of Agriculture.

(b) W.E. Walls, 1965, A Standardized Phenol Method for Testing Wheat Seeds for Varietal Purity, contribution No. 28 to the handbook of seed testing prepared by the Association of Official Seed Analysts. (See attachment.)

# Exhibit D

## Additional Description of Coker 9904

### Milling and Baking Quality

All quality evaluations were conducted by the Soft Wheat Quality Lab at Wooster, Ohio. Quality scores have varied from fair to excellent. Quality data is presented in Table 2.

**TEST IDENTITY**

**TABLE 2. Milling and Baking Quality of Coker 9904**

| | 1990 USN | 1989 USN | 1988 CE | 1989 CE |
|---|---|---|---|---|
| **Milling Parameters** | | | | |
| Test wt (lb/bu) | 61.0 | 61.0 | 59.4 | 62.2 |
| Break flour yield | 35.0 | 36.3 | | |
| Red. pas | 7 | 7 | | |
| St.gr. flour yield | 76.5 | 77.1 | 69.5 | 72.7 |
| Friability | 28.4 | 29.1 | | |
| E.S.I. | 11.0 | 10.8 | | |
| Softness equiv. | | | 62.1 | 62.5 |
| Millability | 96.7 | 96.2 | | |
| Score | 82.5 | 97.6 | 94.0 | 95.7 |
| **Baking Parameters** | | | | |
| Flour protein % | 9.52 | 8.92 | 8.4 | 9.83 |
| Flour ash % | 0.45 | 0.48 | .38 | |
| Micro AWRC % | 54.5 | 52.1 | 56.7 | 57.6 |
| Cookie dia. cm | 17.66 | 17.65 | 18.1 | 17.96 |
| Top Grain | 4 | 1 | 5 | 1 |
| Score | 102.8 | 104.4 | 96.7 | 85.6 |
| Standard | FL302 | FL303 | FL302 | FL302 |

**USN - Uniform Southern Soft Red Winter Wheat Nursery**
**CE - Northrup King's Commercial Elite Test**

### Leaf Rust Resistance

Leaf rust ratings were made in 1992 by David Long; USDA-ARS Cereal Rust Lab; University of Minnesota; St. Paul, MN. The reaction of Coker 9904 to 12 isolates is shown in Table 3.

TABLE 3

**LEAF RUST TEST:**

Twelve isolates of leaf rust were inoculated into these lines, representing common virulence combinations that were identified from collections made throughout the U.S. The single gene lines we compared to include Lr 1, 2a, 2c, 3a, 9, 10, 11, 16, 17, 18, 24, 26, 30, 3ka.

Reaction Produced by Isolates
Rust Isolates Possible

| Variety | LBBQ | DBBL | BGDL | PBMG | PLMQ | MDGL | TFBL | TDBL | TBGL | TDJQ | TLGG | MBGB | Lr genes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NKPro 812 | ;1c | ; | 3 | ; | ;1c1 | ;1c | ;1c | 2c | ;1c | ;2c | ;1c | ;1c | 16 |
| NKPro 814 | 3 | ; | ; | 3 | ;1c | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 1+ * |
| Coker 9877 | 0; | ; | ; | ; | ; | ; | ; | ; | ; | ; | ; | ; | 9,24(?) |
| Coker 9024 | 0; | ; | ; | ; | ;1c2 | ; | ; | ; | ; | ; | 3 | ; | 9,11 |
| Coker 9105 | ; | ; | ; | ; | ;1c1 | ; | ; | ;1c | ; | ; | 3 | ; | 9,11 |
| Coker 9803 | X | ;2 | ;1c | X | X | X | 3 | X | X | 3 | ;1c | ; | + |
| Coker 9835 | ; | ; | ; | ; | ; | 0; | ; | ; | ; | ; | 3 | ; | 9,11 |
| Coker 9907 | ; | ; | 0; | ; | ; | ; | 0; | ; | ; | ; | 3 | ; | 9,11 |
| Coker 9543 | X | ; | ; | X | ; | 3 | ;1c | ;1c | 3 | 2c-3 | 2c-3 | 3 | 3,11+ |
| Coker 9134 | X | X | ;1c | X | X | 3 | ;2 | ;2 | 3 | 3 | 3 | 3 | 3,11 |
| Coker 9904 | ; | ; | ; | ; | ; | ; | ; | ; | ; | ; | 3 | ; | 9,11 |
| Coker 9474 | ; | ; | ; | ; | 3 | ; | ; | ; | ; | ; | 3 | ; | 9 |
| Coker 9766 | ; | ; | ; | ; | ;1c | ; | ; | ; | ; | ; | 3 | ; | 9,11 |
| Coker 983 | 3 | ;2 | ;1c | X | 3 | X | X | X | X | 3 | ;1c | ; | 10,18 |
| Coker 916 | X | X | ; | ;1 | ;1c | 3 | X | ;-3 | 3 | 3 | ; | ; | 10,11+ |
| Coker 747 | X | 3 | ;1c | 3 | 3 | ;1c | 31c; | ;31c | X | ;1c2c; | 1c | ;3 | 10+ |
| Coker 762 | ; | ; | ; | ; | ; | ; | ; | ; | ; | ; | 3 | ; | 9,11 |
| Coker 9227 | ;1c | ;1 | ;1c | X | ;1c2 | ;1c | ;1c2 | ;1c | ;1c | 3 | 3 | ;3 | 11,18 |
| Coker 9323 | ; | ; | ; | ; | ; | ; | ; | ; | ; | ; | 3 | ; | 9,11 |
| Coker 9733 | ; | ; | ; | ; | ; | -- | 3 | 3 | ; | 3 | ; | ; | 24 |
| Coker 833 | ; | ; | ; | ; | 3; | ; | ; | ; | ; | ; | ; | ; | 9,24? |
| McNair 1003 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | -- | 3 | 0 |
| TN 101 | ; | ; | ; | ; | X | ; | ; | ; | ; | ; | 3 | ; | 9,11 |
| L 860434 | ; | ; | ; | ; | X | ; | ; | ; | ; | ; | 3 | ; | 9,11 |

DATA FROM: David Long
USDA-ARS Cereal Rust Lab
University of Minnesota
St. Paul, MN

6

9300199

TABLE 3 Continued

| Variety | LBBQ | DBBL | BGDL | PBMG | PLMQ | MDGL | TFBL | TDBL | TBGL | TDJG | TLGG | MDGB | gene |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L 870537 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | ; | 0 |
| L 881060 | ; | ; | ; | ; | ; | 3 | 3 | 3 | ;-3 | 3;1c | ; | ; | 24+ |
| L 890682 | X | X | X | -- | X | 3 | X | X | 3 | -- | 3x | ;3 | 10,11 |
| L 890690 | ; | ; | ; | ; | ; | ; | ; | ; | ; | ; | 3 | ; | 9,11 |
| L 890714 | ; | ; | ; | ; | ; | ; | 3 | ;1c2 | ; | ; | ; | ; | 11,26+ |
| L 900819 | ;-3 | ;-3 | ; | ; | 3; | ; | ;-3 | ; | ; | ;-3 | ;1c2 | ;2 | + |

* Lr 34 Adult plant gene

VIRULENCE FORMULA Virulence/Avirulence

| | |
|---|---|
| LBBQ | Lr1,10,18/2a,2c,3,9,11,16,17,24,26,30,3Ka |
| DBBL | Lr2c,10/1,2a,3,9,11,16,17,18,24,26,30,3Ka |
| BGDL | Lr10,16,17/1,2a,2c,3,9,11,18,24,26,30,3Ka |
| PBMG | Lr1,2c,3,18,30,3Ka/2a,9,10,11,16,17,24,26 |
| PLMQ | Lr1,2c,3,9,10,18,30,3Ka/2a,11,16,17,24,26 |
| MDGL | Lr1,3,10,11,24/2a,2c,9,16,17,18,26,30,3Ka |
| TFBL | Lr1,2a,2c,3 10,24,26/9,11,16,17,18,30,3Ka |
| TDBL | Lr1,2a,2c,3,10,24/9,11,16,17,18,26,30,3Ka |
| TBGL | Lr1,2a,2c,3,10,11/9,16,17,18,24,26,30,3Ka |
| TDJQ | Lr1,2a,2c,3,10,11,17,18,24/9,16,26,30,3Ka |
| TLGG | Lr1,2a,2c,3,9,11,18/10,16,17,24,26,30,3Ka |
| MBGB | Lr1,3,11/2a,2c,9,10,16,17,18,24,26,30,3Ka |

## EXHIBIT E

### Statement of the Basis of Applicant's Ownership

Wheat variety Coker 9904 was developed by the Northrup King Co. cereals breeding staff from germplasm sources cited in Exhibit A of this application. Northrup King Co. believes that the variety is novel as defined in the Plant Variety Protection Act and, therefore, that Northrup King Co is the sole owner of the variety.